Near Real-Time Data Frequently Asked Questions

On this page

What is MODIS?

MODIS stands for MODerate Resolution Imaging Spectroradiometer. The MODIS instrument is on board NASA's Earth Observing System (EOS) Terra (EOS AM) and Aqua (EOS PM) satellites. The orbit of the Terra satellite goes from north to south across the equator in the morning and Aqua passes south to north over the equator in the afternoon resulting in global coverage every 1 to 2 days. The EOS satellites have a ±55 degree scanning pattern and orbit at 705 km with a 2,330 km swath width. For an artist's visualization of "MODIS scans the globe" go to:http://aqua.nasa.gov/doc/viz/media/aqua_modis_soren.mov. (Higher resolution movie files can be found at:http://aqua.nasa.gov/about/instrument_modis.php). The MODIS instrument provides 36 spectral bands from wavelengths of 0.4µm to 14.4µm. For more information, please visit the NASA MODIS website.

When were the Terra and Aqua satellites launched?

Terra (EOS AM) was launched 18 December 1999 and Aqua (EOS PM) was launched 4 May 2002. High quality hotspot/active fire observations are available from the Terra satellite starting November 2000 and from the Aqua satellite starting 4 July 2002 onwards.

What time does the satellite pass over my area?

Terra (EOS AM) passes over the equator at approximately 10:30 am and 10:30 pm each day, Aqua (EOS PM) satellite passes over the equator at approximately 1:30 pm and 1:30 am. The sun-synchronous orbit allows the satellites to pass over the same area at the same time in every 24 hour period (at every 99 minute orbit the satellites cross the equator at the above mentioned times; every other spot on Earth has similarly constant overpass times). The time of satellite pass will vary according to your location. To estimate when the satellite will pass over your area, you can use the satellite overpass predictor provided by NASA.

Daily Terra and Aqua global and regional orbit tracks are provided by the Space Science and Engineering Center (SSEC) at University of Wisconsin-Madison. The maps show a series of white lines with tic marks showing what time the satellite will pass over a certain location on the Earth. The white lines represent the center of the swath and the tic marks and time show at what time in UTC the satellite has passed over that location. Please refer to the MODIS Rapid Response System FAQ for more information: What do the orbit track maps show?

For an artist's visualization of "MODIS scans the globe" go to:http://aqua.nasa.gov/doc/viz/media/aqua_modis_soren.mov. (Higher resolution movie files can be found at:http://aqua.nasa.gov/about/instrument_modis.php).

How often are data acquired?

The MODIS instrument on board the Terra and Aqua EOS satellites acquire data continuously providing global coverage every 1-2 days. Therefore there are at least 4 daily MODIS observations for almost every area on the equator – with the number of overpasses increasing (due to overlapping orbits) the closer an area is to the poles. See What time does the satellite pass over my area?

Related

- LANCE Frequently Asked Questions (EOSDIS Support Knowledge base)
  faq
- Near Real-Time Data Frequently Asked Questions (EOSDIS Support Knowledge base)
  faq